UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

EPA Region 5 Records Ctr.
387514

DATE: April 13, 2004

SUBJECT: Screening Level Ecological Risk Assessment; Remedial Investigation/Feasibility Study for Eagle Zinc Company Site, Hillsboro, Illinois

FROM: David Brauner, Ecologist

TO: Dion Novak, RPM

I have reviewed the aforementioned Screening Level Ecological Risk Assessment (SLERA). There are a number of issues that should be addressed. The following comments pertain to those issues.

1) pg. 1. Section 1.0 Executive Summary/pg. 10 Section 2.2 Land Use:

While there is a discussion indicating that the intended future site-use precludes the establishment of any quality habitat for wildlife, I am not wholly comfortable with the nearly complete dismissal of analysis of conditions on-site. The lack of information means that there will be 1) no baseline information if the intended use does not occur (i.e., if part or all of the site is not used for commercial/industrial purposes) or 2) no information available to develop clean-up goals. Even if there are strong indications or intentions and unofficial agreements, without actual legal documents (and timelines) there is still the possibility that the site will be subject to non-commercial/industrial uses.

2) pg. 2 Section 1.0 Executive Summary:
While there was a discussion suggesting that there is no migration of contaminants to off-site soils, there is no sampling evidence to support this claim.

3) pg. 15. Section 4.1.1. Terrestrial Resources:
The lack of uniqueness or rarity (those characteristics being important in the RI/FS process) does not necessarily preclude the need for protection of the natural resources.

4) pg. 23. Section 4.3 Last Paragraph: Identification of Study Areas for the SLERA:
The photographs appear to somewhat contradict this statement that there is no quality habitat to support sustainable wildlife populations. Small species may indeed populate the area. Small ponds are important resources for amphibians and insects, such as the dragonflies which have been observed at the site.

5) pg. 34. Section 7.1.1. Last Paragraph: Western Drainage Area:

A pattern of decreasing concentrations of contaminants correlated with distance from the site has little relevance to whether or not there is likely ecological risk due to those contaminants at the site proper. Because no on-site risk calculations were included in the SLERA, claims of contamination/HQ relationships to the site are only weakly supported, if at all; contamination levels in off-site may or may not be indications of off-site migration of COCs; (See Comment 2 above.)

6) pg. 35. Section 7.1.2. The use of terms such as "low exceedences" or "slightly elevated" contracts statements elsewhere in the document (as well as SLERA guidance) that states the level of exceedence is irrelevant to a SLERA.

7) pg. 36. Section 7.3 Summary
Rewrite sentence: "while levels below 1 can be confidently considered safe," to read "while COPECs with HQs below one are likely to pose little to no ecological risk,"

8) Table 4-4 Ecological Receptors:
Change "Aquatic biota, sediment" to "Aquatic biota, benthic"

9) Table 4-5 Assessment and Measurement endpoints:
Why was abundance chosen over reproduction or survival for piscivores?

10) Tables 7-3, 7-4: Summaries of HQs for Piscivores:
Neither table indicates the medium to which the two species of piscivores are exposed.

11) Table 7-5: Uncertainty management:

- The statement "Also, background HQs greater than 1 indicate that indigenous wildlife would have adapted to these COPECs" is not supported. The bioavailability of the COPECs may be different, and there is no evidence provided of adaption. This type of evidence would require significant research. In addition, there may well be impacts in the background areas (population losses, mortality, etc.), which have not been discussed in the SLERA. There is also an inconsistency within the table that "tolerance and adaption are not considered directly" and the use of "adaptation" to indicate a lack of risk/effects in background areas. The statement in the table should be removed.
- Background comparisons, as stated in the document and in the ERAGS, are not appropriate to the SLERA.
- Finally, the table also states that the HQs may have unrealistic magnitudes (suggesting acute toxicity) and that site conditions often indicate that there is no acute toxicity. No evidence specific to the Eagle Zinc site is provided here. Furthermore, the magnitude of the HQs is not relevant in the SLERA.

12) Tables Appendix E: Surface Water and Sediment Quality Criteria.
There are Region 5 surface water numbers for cobalt, vanadium, antimony, and beryllium; Region 5 sediment numbers for cobalt; and Region 4 sediment numbers for antimony and silver;

13) Tables Appendix G: Sediment HQs:
TRVs should be included in these tables.

I may be contacted at 6-1526 if you have questions or comments. Please fill out the attached evaluation form and return it to Tom Short, SR-6J. The information is used to assess and improve our services.

References:

U.S. EPA. 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. EPA 540-R-97-006.

U.S. EPA 2001a. The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments. OSWER 9345.0-14

U.S. EPA. 2001b. Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites, EPA 540-R-01-003. OSWER 9285.7-41

U.S. EPA. 2002. Role of Background in the CERCLA Cleanup Program. April 26, 2002. OSWER 9285.6-07P.

cc: Tom Short, Section Chief, RRS #1